SANTA CRUZ BIOTECHNOLOGY, INC.

D53 siRNA (m): sc-63275

BACKGROUND

The cell commits to dividing during the G_2/M phase transition, and the timing of mitotic entry is tightly regulated to guarantee correct chromosome segregation. D53, also referred to as tumor protein D52-like 1 (TPD52L1), is a coiled-coil motif-bearing member of the D52 tumor protein family. D53 intereacts with 14-3-3, a negative regulator of the G_2/M transition, in breast cancer cells. Expression of D53 is highly upregulated at the G_2/M phase transition in breast cancer cell lines, and deregulated expression of this protein can adversely affect the completion of mitosis. D53 may function as a signaling intermediate and/or regulator of vesicle trafficking and cell proliferation.

REFERENCES

1. Byrne, J.A., et al. 1996. Definition of the tumor protein D52 (TPD52) gene family through cloning of D52 homologues in human (hD53) and mouse (mD52). Genomics 35: 523-532.
2. Byrne, J.A., et al. 1998. Identification and *in situ* hybridization mapping of a mouse Tpd52l1 (D53) orthologue to chromosome 10A4-B2. Cytogenet. Cell Genet. 81: 199-201.
3. Byrne, J.A., et al. 1998. Identification of homo- and heteromeric interactions between members of the breast carcinoma-associated D52 protein family using the yeast two-hybrid system. Oncogene 16: 873-881.
4. Nourse, C.R., et al. 1999. Cloning of a third me sequence usage in D52-like transcripts. Biochim. Biophys. Acta 1443: 155-168.
5. Sathasivam, P., et al. 2001. The role of the coiled-coil motif in interactions mediated by TPD52. Biochem. Biophys. Res. Commun. 288: 56-61.
6. Boutros, R., et al. 2003. Alternative splicing as a mechanism for regulating 14-3-3 binding: interactions between hD53 (TPD52L1) and 14-3-3 proteins. J. Mol. Biol. 332: 675-687.
7. Boutros, R. and Byrne, J.A. 2005. D53 (TPD52L1) is a cell cycle-regulated protein G_2/M transition in breast cancer cells. Exp. Cell Res. 310: 152-165.

CHROMOSOMAL LOCATION

Genetic locus: Tpd52l1 (mouse) mapping to 10 A4.

PRODUCT

D53 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see D53 shRNA Plasmid (m): sc-63275-SH and D53 shRNA (m) Lentiviral Particles: sc-63275-V as alternate gene silencing products.

For independent verification of D53 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-63275A, sc-63275B and sc-63275C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

D53 siRNA (m) is recommended for the inhibition of D53 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor D53 gene expression knockdown using RT-PCR Primer: D53 (m)-PR: sc-63275-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.